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PA  
#4PATENT  
450110-03032IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Stephen LOWENSTEIN et al.  
Serial No. : 10/006,198  
Filed : December 4, 2001  
For : MEDIA TRANSACTION PROCESSOR  
Art Unit : 2162

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Gordon Kessler, Reg. No. 38,511

Name of Applicant, Assignee or  
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Signature

February 6, 2002  
Date of Signature

CLAIM OF PRIORITY

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Sir:

In support of the claim of priority under 35. U.S.C.  
§ 119 asserted in the Declaration accompanying the above-entitled  
application, as filed, please find enclosed herewith a certified  
copy of U.K. Application No. 0008720.5, filed in U.K. on 7 April  
2000 forming the basis for such claim.



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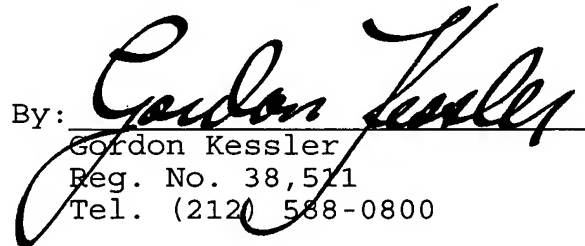
PATENT  
450110-03032

Acknowledgment of the claim of priority and of the  
receipt of said certified copy(s) is requested.

Respectfully submitted,

FROMMER LAWRENCE & HAUG LLP  
Attorneys for Applicants

By:

  
Gordon Kessler  
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Enclosure(s)

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The Patent Office  
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## CERTIFIED COPY OF PRIORITY DOCUMENT

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In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

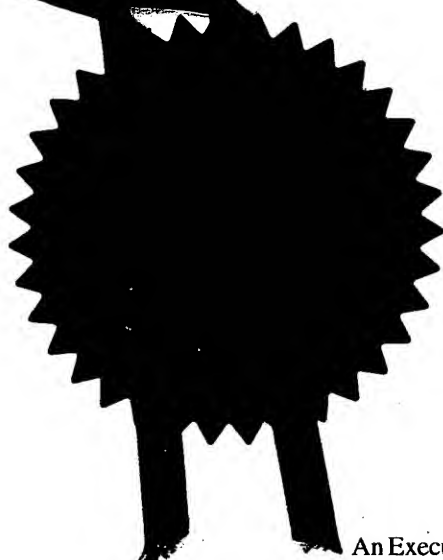
In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

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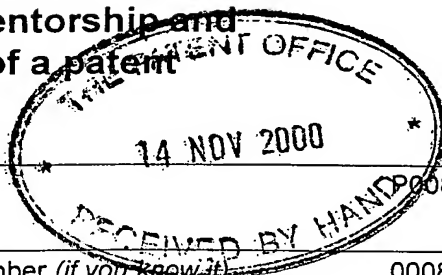


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Statement of inventorship and  
of right to grant of a patent

The Patent Office

Cardiff Road  
Newport  
Gwent NP9 1RH



1. Your reference 008819GB

2. Patent application number (if you know it) 0008720.5

3. Full name of the or of each applicant SONY UNITED KINGDOM LIMITED

4. Title of the invention MEDIA STORAGE

5. State how the applicant(s) derived the right from the inventor(s) to be granted a patent BY VIRTUE OF AN ASSIGNMENT DATED 13 NOVEMBER 2000 BETWEEN OURSELVES AND THE OVERRNAMED INVENTORS

6. How many, if any, additional Patents Forms 7/77 are attached to this form? (see note (c)) 1

7. I/We believe that the person(s) named over the page (and on any extra copies of this forms) is/are the inventor(s) of the invention which the above patent relates to.

Signature

Date



D YOUNG & CO  
Agents for the Applicants

14 Nov 2000

8. Name and daytime telephone number of person to contact in the United Kingdom 023 80634816 James Turner

Notes

a) If you need help to fill in this form or you have any questions, please contact the Patent Office on 0645 500505.

b) Write answers in capital letters using black ink or you may type them.

c) If there are more than three inventor, please write the names and addresses of the other inventors on the back of another Patents Form 7/77 and attach it to this form.

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Enter the full names, addresses and postcodes of the inventors in the boxes and underline the surnames

Surname	<u>BISHOP</u>
First Names	Keith
Address	41 Rectory Close Great Paxton St Neots Cambridge, PE19 6RZ United Kingdom
Patents ADP number (if you know it): 8021859001	

Surname	<u>LOWENSTEIN</u>
First Names	Stephen
Address	Badhoevelaan 71 1171 DB Badhoevedorp The Netherlands
Patents ADP number (if you know it): 8021867001	

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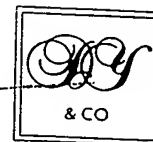


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11APR00 5528390-11 D02246  
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Request for a grant of a patent

(See the notes on the back of this form you can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road  
Newport  
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1. Your reference P/8819.GB

2. Patent application number  
(The Patent Office will fill in this part)

0008720.5

7 APR 2000

3. Full name, address and postcode of the  
or of each applicant  
(underline all surnames)

SONY UNITED KINGDOM LIMITED  
THE HEIGHTS  
BROOKLANDS  
WEYBRIDGE  
SURREY, KT13 0XW

Patents ADP number (if you know it)

6522700001

If the applicant is a corporate body, give  
the country/state of its incorporation

UNITED KINGDOM

4. Title of the invention

MEDIA STORAGE

5. Name of your agent (if you have one)

D YOUNG & CO

"Address for service" in the United Kingdom  
to which all correspondence should be sent  
(including the postcode)

21 NEW FETTER LANE  
LONDON  
EC4A 1DA

Patents ADP number (if you know it)

59006

6. If you are declaring priority from  
one or more earlier patent  
applications, give the country and  
date of filing of the or each of these  
earlier applications and (if you know  
it) the or each application number

Country

Priority application  
number  
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Date of filing  
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1st

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7. If this application is divided or otherwise  
derived from an earlier UK application,  
give the number and filing date of the  
earlier application

Number of earlier  
application

Date of filing  
(day/month/year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or  
b) there is an inventor who is not named as an applicant, or  
c) any named applicant is a corporate body.  
See note (d))

YES

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Claim(s)	3
Abstract	1
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10. If you are also filing any of the following, state how many against each item

Priority Documents	0
Translation of Priority Documents	0
Statement of inventorship and right to grant of a patent (Patents Form 7/77)	0
Request for preliminary examination and search (Patents Form 9/77)	0
Request for substantive examination (Patents Form 10/77)	0
Any other documents (Please specify)	0

11.

I/We request the grant of a Patent on the basis of this application.

Signature

Date

*D Young & Co*

**D YOUNG & CO**

Agents for the Applicants

7 Apr 2000

12. Name and daytime telephone number of person to contact in the United Kingdom

James Turner

023 80634816

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MEDIA STORAGE

This invention relates to media storage.

5 The number of media distribution channels available to end-users is rapidly expanding. Examples include television channels, internet services, broadcast or cable data services (e.g. associated with digital television broadcasting), new generation mobile telephony services and the like.

10 The expansion in this field has led to a corresponding increase not only in the amount of material produced, but also in the range of companies or other entities involved in its production and distribution.

Media management systems including a digital storage array under the control of a storage server have been proposed, whereby an organisation can store or archive its material for later use or so that it can then be transferred to another organisation. For example, a production house might employ such a system to store its material for editing, with the final  
15 edited material being passed on to a broadcaster for delivery to the end-users. Usually a contractual arrangement between (in this example) the production house and the broadcaster is put in place before the material is passed on, so that an appropriate payment is made for the use of the material.

This invention provides a media storage system comprising:

20 a storage server storing a plurality of media items and details of one or more respective proprietors of rights relating to each item;  
a data link;

one or more client data processing systems connectable via the data link to the storage server, each client data processing system having means for identifying, to the  
25 storage server, a user of that client data processing system and to issue requests to the storage server to transfer media items held at the storage server to that client data processing system;

the storage server being operable, in response to a request from a client data processing system to transfer a media item, to compare the identity of the user of that client data processing system with the proprietors of rights relating to the requested media item  
30 and, in the event that the user of the client data processing system is not the proprietor of rights relating to the requested media item, to generate charging information relating to a charge to that user for transfer of the requested media item.

The invention recognises that the present arrangements described above, involving separate media storage systems for each entity and the exchange of paper contracts to allow

electronic distribution or transfer of the media content, is potentially inefficient and restrictive.

In a system according to the invention, management of media items may in fact be delegated to an automated server, by arranging that the server receives data identifying a user making a request to download a media item and, if that user is not listed as a proprietor of rights (e.g. a copyright owner, licensee or an employee or contractor of one of those) then a charge is generated against that user. In this way, a single storage server can conveniently provide storage of media items for internal use by the proprietors, and also external access to others, for a fee. The fee may be set in advance by the proprietors.

Accordingly, a single system may indeed be used by a plurality of proprietors as a means of sharing material with licensing costs taken care of automatically. This type of arrangement is particularly, though not exclusively, suited to organisations with large volumes of image, video and audio files, for whom conventional storage and archiving systems involve an inconvenient administrative overhead, in that the storage and management of the media items can be outsourced to a third party company.

Preferably the media items are audio/video or image media items. the link might be, for example, a dedicated high capacity data link or the internet.

Rather than simply moving the requested media item across to the client system, it is preferred that a copy operation is instead performed so that the storage server maintains a copy of the requested media item at the storage server when a transfer to a client data processing system is made.

In one embodiment, the storage server is operable to transfer the requested media item irrespective of the identity of the user of the client data processing system issuing the request. In other words, no user authorisation is needed, the only test being that if the requesting user does not have appropriate rights then a charge will be made. In another alternative embodiment, the storage server comprises means for maintaining a list of users to which transfers of the media items are authorised, the storage server not transferring a media item to a user if that user does not appear on the list of authorised users for that media item.

Embodiments of the invention will now be described with reference to the accompanying drawings, throughout which like parts are referred to by like references, and in which:

Figure 1 is a schematic diagram of a media storage system;

Figure 2 is a schematic diagram showing an example use of a media network; and

Figure 3 is a schematic diagram showing a second example use of a media network.

Figure 1 is a schematic diagram of a media storage system 10 comprising a media server 20, a disc array 30 such as a high capacity RAID disc array, server controllers 40, a web server 50, an encoding station 60, a work flow tools work station 70, an asset management server 80 and a network 90 interconnecting these items, the network including a bridge 100 connecting the media server to the network. The media storage server 10 connects to an external network such as, for example, a dedicated high capacity data link or the Internet, via an interface 110.

The encoding station, the work flow tools station and the controllers are computer devices running appropriate software to handle administration of the loading and unloading of data to the media server. The web server provides an interface to the internet (if one is indeed used) and handles the management and presentation of web pages and the like.

Figure 2 is a schematic diagram showing an example use of a media storage system including the media server 10 of Figure 1. In Figure 2 (and in Figure 3 described below) a simplified version of the media server is shown for clarity of the diagram.

In Figure 2, the media server 10 is connected via a network or Internet connection 120 to client data processing systems 130, 140 and 150 each operated (in this example) by separate corporate entities.

Each of the companies operating a client data processing system, or indeed other organisations altogether, may store media items on the disc array 30. Along side each media item, a schedule of proprietors of rights relating to that media item is stored. This may be stored at the disc array 30, at the asset management server 80 or elsewhere within the media server 10. Examples of the type of rights which are relevant to this arrangement are: the proprietor of copyright in the media item, the proprietor of a licence to the use of the media item, or an employee or contractor of one of these.

The list may be a simple schedule of names, electronic address, user identifiers or the like. Examples are given below, but other possibilities may of course be used. In some of the examples below, the media items are identified by SMPTE standard Unique Material Identifiers ("UMIDs")

#### Example 1:

Item = Archive shot of Concorde fly-past, timecode A to timecode B

Proprietor = Davies, Gary

Proprietor = BBC News

Proprietor = BBC Enterprises

## Example 2:

Item = Interview with Kenneth Clarke on 31/03/2000; UMID = yyyyyyyyyy

Proprietor = Channel 5 News

5 Proprietor = Alan.Partridge@Peartree-Productions.co.uk

Proprietor = Conservative Central Office

## Example 3:

Item = Draft internet home page for Skylark Industries, Inc

10 Proprietor = 410.234.928.786

Proprietor = 223.713.901.128

The basic principal is that users registered in the list of proprietors of rights associated with each media item are granted free access to that media item. Users not so listed are charged for access to the media item.

So, in operation, a client data processing system connects to the media server 10 and identifies the user of the client data processing system to the media server 10. This identification process may be implicit, in that a connection along a particular dedicated data link is deemed to be a certain user, or may be explicit in that the client data processing system logs on and identifies itself to the media server 10 at first connection. The client data processing system, which may be a conventional PC workstation running appropriate software to carry out the functions described here, is operable to issue a request to the media server 10 for the transfer of a particular media item.

In response to such a request, the media server 10 compares the identity of the user of the client data processing system with the schedule of proprietors for that media item held at the media server 10. If the user is found in the schedule then the requested media items is transferred without charge or restriction. If the user is not found in the schedule then the requested item is still transferred but charging information is generated to issue, for example, an invoice to the user receiving the media item. The invoice may be based on charging information pre-set by the proprietor of the media item in question or may relate to a general set of access charges agreed with that user. The invoice or other charging information may be generated as, for example, an email or other electronic message or as a paper document to be forwarded by post.

In an alternative embodiment, access to the requested media item may be withheld until payment for the access charge is received in some form.

In a further alternative embodiment, the media server 10 also maintains a schedule of authorised users of each media item, this schedule including not only the proprietors of rights to that media item but also any other users authorised to have access to the media item. If a user attempts to request a transfer of that media item without that user appearing on the schedule of authorised users, the transfer is refused by the media server 10. If the user making the request does appear on the schedule of authorised users then a comparison is made with the schedule of proprietors of rights and the charging arrangements described above are put in place.

As a default position, all listed proprietors of an item are of course considered to be authorised users of that item.

In another variant of this embodiment, if a user does not appear on the list of authorised users then instead of the apparatus simply refusing the request for access straight away, the apparatus can send an electronic message, for example an email message, to the listed proprietors of the requested item to ask whether the requesting user should be added to the list of authorised users. If the answer comes back as "no" from any of the proprietors, or if no response is received within a predetermined time such as one hour, then the request can be refused. Of course, the default position could be instead to allow the user to become authorised unless a negative response is received within the predetermined time. If, however, a positive response is received then the requesting user can be added to the list of authorised users and the procedure – with charging – continues as above. This process can be invisible to the requesting user, who just experiences a slight delay in having the request attended to. The requesting user need not know about the existence of the list of authorised users, nor whether that user is included or not included on the list.

Figure 2 has shown the situation where three competing companies require access to media items which may be owned by one of the three companies or a third party. Figure 3 shows another example of the user of this type of media storage system. As before, a media server 10 is connected via a network or Internet connection 120 to various client data processing systems. However, these are operated by different parties contributing to the production and output of a single media service such as a television program. So, a client data processing system may be operated by a production house 160, a post production organisation 170, an advertising agency 180 and a broadcaster 190.

When a program is being prepared, the production house 160 might prepare an initial edited program for storage at the media server 10. The production house is added to the list of proprietors of rights relating to that stored item. At a post-production stage, the post production organisation can download the program prepared by the production house 160, carry out post-production operations on the program and return it to the media server 10. Similarly, the advertising agency may access the program, add advertising material or carry out other functions and return the material to the media server 10. Finally, the broadcaster may issue a request to transfer the material to the broadcaster's client data processing system 190 for transmission. As the broadcaster is not listed as a proprietor of rights in the program, charging information is generated whereby the broadcaster 190 is invoiced for a copy of that program.

In so far as the embodiments of the invention described above are implemented, at least in part, using software-controlled data processing apparatus, it will be appreciated that a computer program providing such software control and a storage medium by which such a computer program is stored are envisaged as aspects of the present invention.



CLAIMS

1. A media storage system comprising:
  - a storage server storing a plurality of media items and details of one or more
  - 5 respective proprietors of rights relating to each item;
  - a data link;
  - one or more client data processing systems connectable via the data link to the storage server, each client data processing system having means for identifying, to the storage server, a user of that client data processing system and to issue requests to the storage
  - 10 server to transfer media items held at the storage server to that client data processing system;
  - the storage server being operable, in response to a request from a client data processing system to transfer a media item, to compare the identity of the user of that client data processing system with the proprietors of rights relating to the requested media item and, in the event that the user of the client data processing system is not the proprietor of
  - 15 rights relating to the requested media item, to generate charging information relating to a charge to that user for transfer of the requested media item.
2. A system according to claim 1, in which the media items are audio/video or image media items.
- 20 3. A system according to claim 1 or claim 2, in which the storage server is operable to maintain a copy of the requested media item at the storage server when a transfer to a client data processing system is made.
- 25 4. A system according to any one of claims 1 to 3, in which the storage server is operable to transfer the requested media item irrespective of the identity of the user of the client data processing system issuing the request.
- 30 5. A system according to any one of claims 1 to 3, in which the storage server comprises means for maintaining a list of users to which transfers of the media items are authorised, the storage server not transferring a media item to a user if that user does not appear on the list of authorised users for that media item.

6. A media storage server for storing a plurality of media items and details of one or more respective proprietors of rights relating to each item; and connectable via a data link to one or more client data processing systems connectable via the data link to the storage server, each client data processing system having means for identifying, to the storage server, a user of that client data processing system and to issue requests to the storage server to transfer media items held at the storage server to that client data processing system;

the storage server being operable, in response to a request from a client data processing system to transfer a media item, to compare the identity of the user of that client data processing system with the proprietors of rights relating to the requested media item and, in the event that the user of the client data processing system is not the proprietor of rights relating to the requested media item, to generate charging information relating to a charge to that user for transfer of the requested media item.

7. A method of media storage and retrieval, the method comprising the steps of:  
storing, at a storage server, a plurality of media items and details of one or more respective proprietors of rights relating to each item;

connecting a client data processing system to the storage server via a data link;

the client data processing system identifying, to the storage server, a user of that client data processing system;

the client data processing system issuing requests to the storage server to transfer media items held at the storage server to that client data processing system;

the storage server, in response to a request from a client data processing system to transfer a media item, comparing the identity of the user of that client data processing system with the proprietors of rights relating to the requested media item and, in the event that the user of the client data processing system is not the proprietor of rights relating to the requested media item, generating charging information relating to a charge to that user for transfer of the requested media item.

8. A method of operation of a media system, the method comprising the steps of:  
storing a plurality of media items and details of one or more respective proprietors of rights relating to each item;

connecting to a client data processing system via a data link;

receiving from the client data processing system data identifying, to the storage server, a user of that client data processing system;

receiving from the client data processing system a request to the storage server to transfer media items held at the storage server to that client data processing system;

in response to a request from a client data processing system to transfer a media item, comparing the identity of the user of that client data processing system with the proprietors  
5 of rights relating to the requested media item and, in the event that the user of the client data processing system is not the proprietor of rights relating to the requested media item, generating charging information relating to a charge to that user for transfer of the requested media item.

10 9. A media storage and retrieval method substantially as hereinbefore described with reference to the accompanying drawings.

10. A method of operation of a media storage system, the method being substantially as hereinbefore described with reference to the accompanying drawings.

15

11. Computer software having program code for carrying out a method according to any one of claims 7 to 10.

12. A storage medium by which software according to claim 11 is stored.

20

13. A media storage system substantially as hereinbefore described with reference to the accompanying drawings.

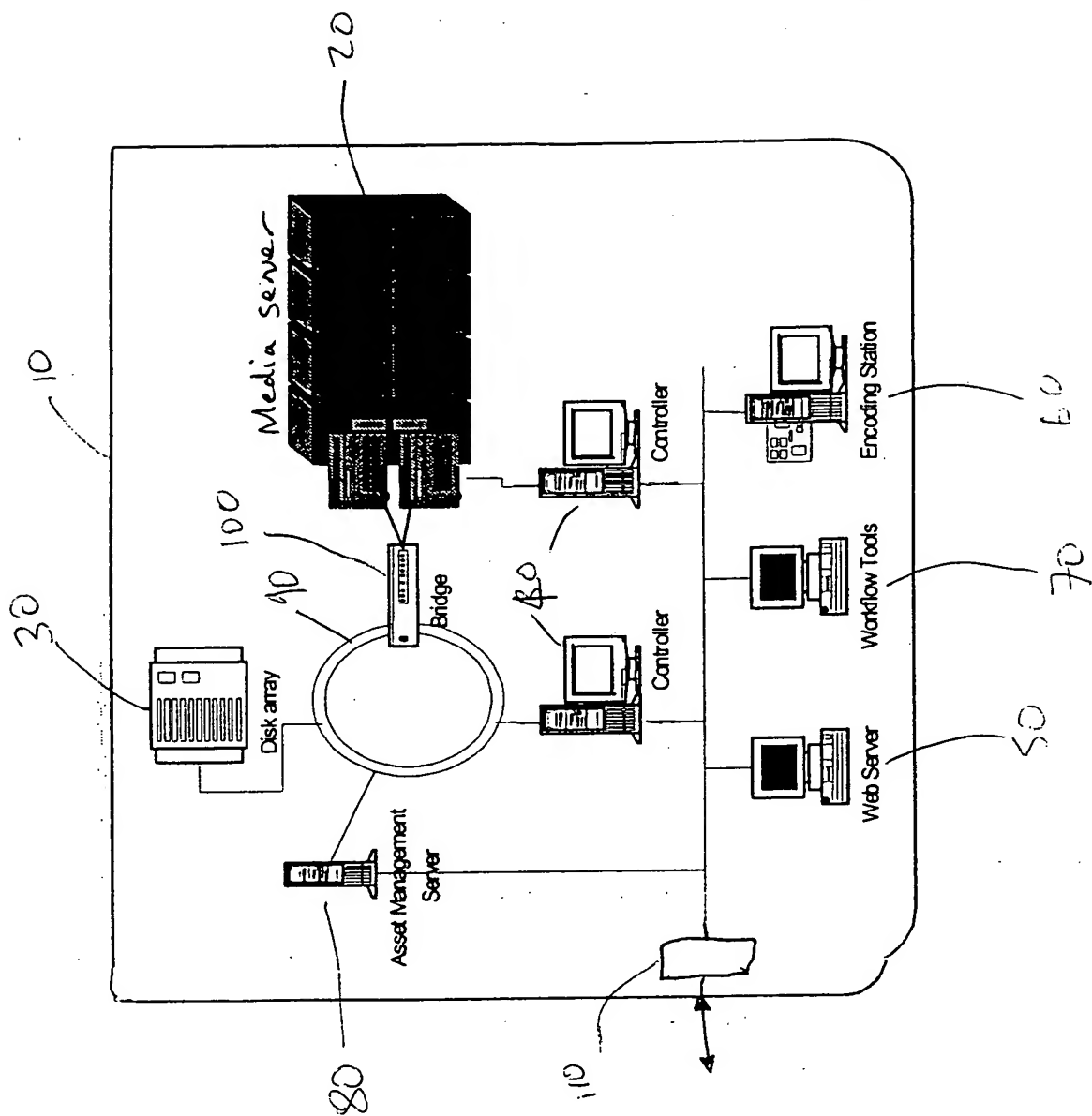
14. A media storage server substantially as hereinbefore described with reference to the  
25 accompanying drawings.

ABSTRACTMEDIA STORAGE

5           A media storage system comprises a storage server storing a plurality of media items and details of one or more respective proprietors of rights relating to each item; a data link; one or more client data processing systems connectable via the data link to the storage server, each client data processing system having means for identifying, to the storage server, a user of that client data processing system and to issue requests to the storage server to  
10 transfer media items held at the storage server to that client data processing system; the storage server being operable, in response to a request from a client data processing system to transfer a media item, to compare the identity of the user of that client data processing system with the proprietors of rights relating to the requested media item and, in the event that the user of the client data processing system is not the proprietor of rights relating to the  
15 requested media item, to generate charging information relating to a charge to that user for transfer of the requested media item.

Figure 2.

Fig. 1



2/3

FIG. 2

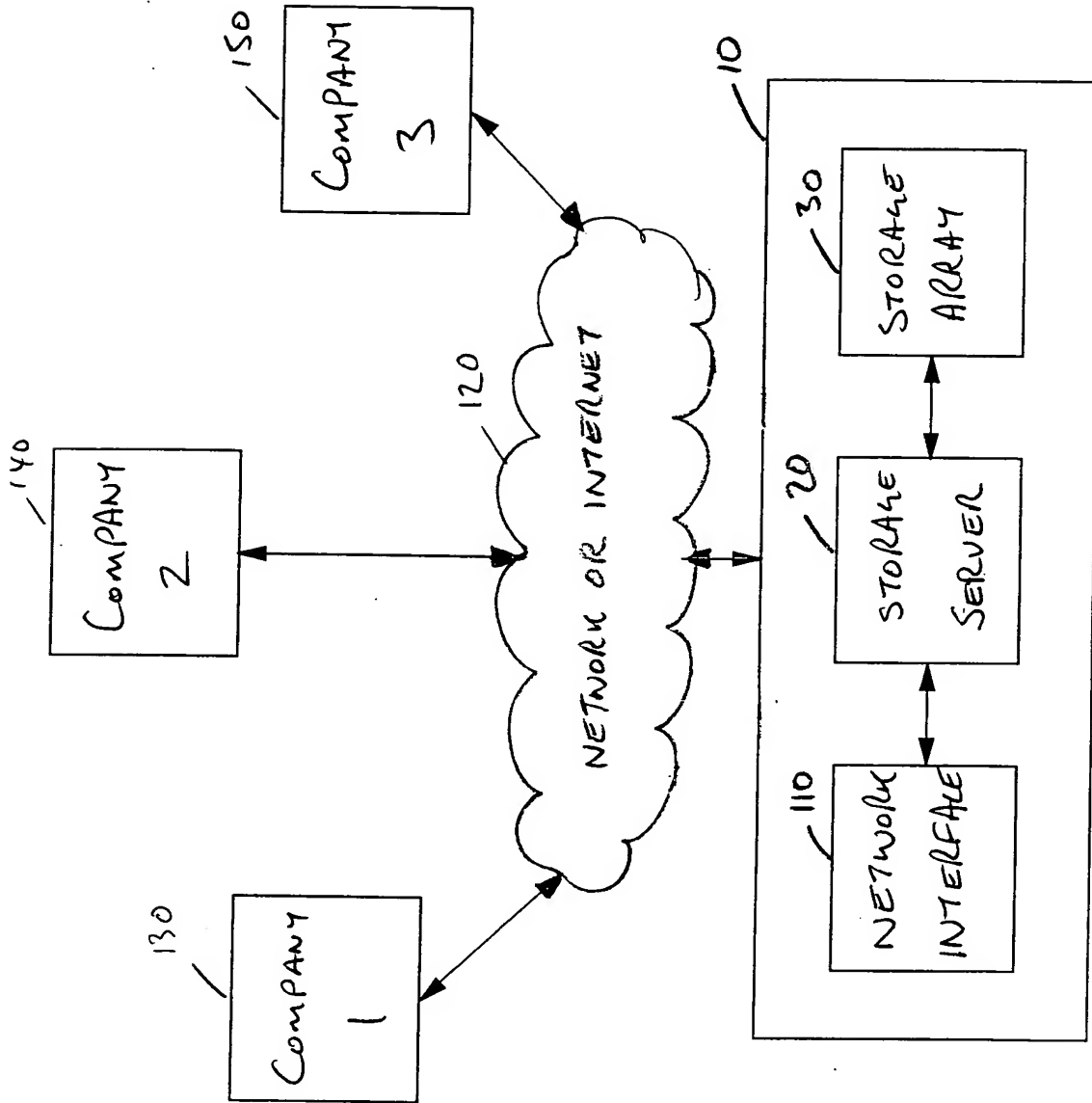
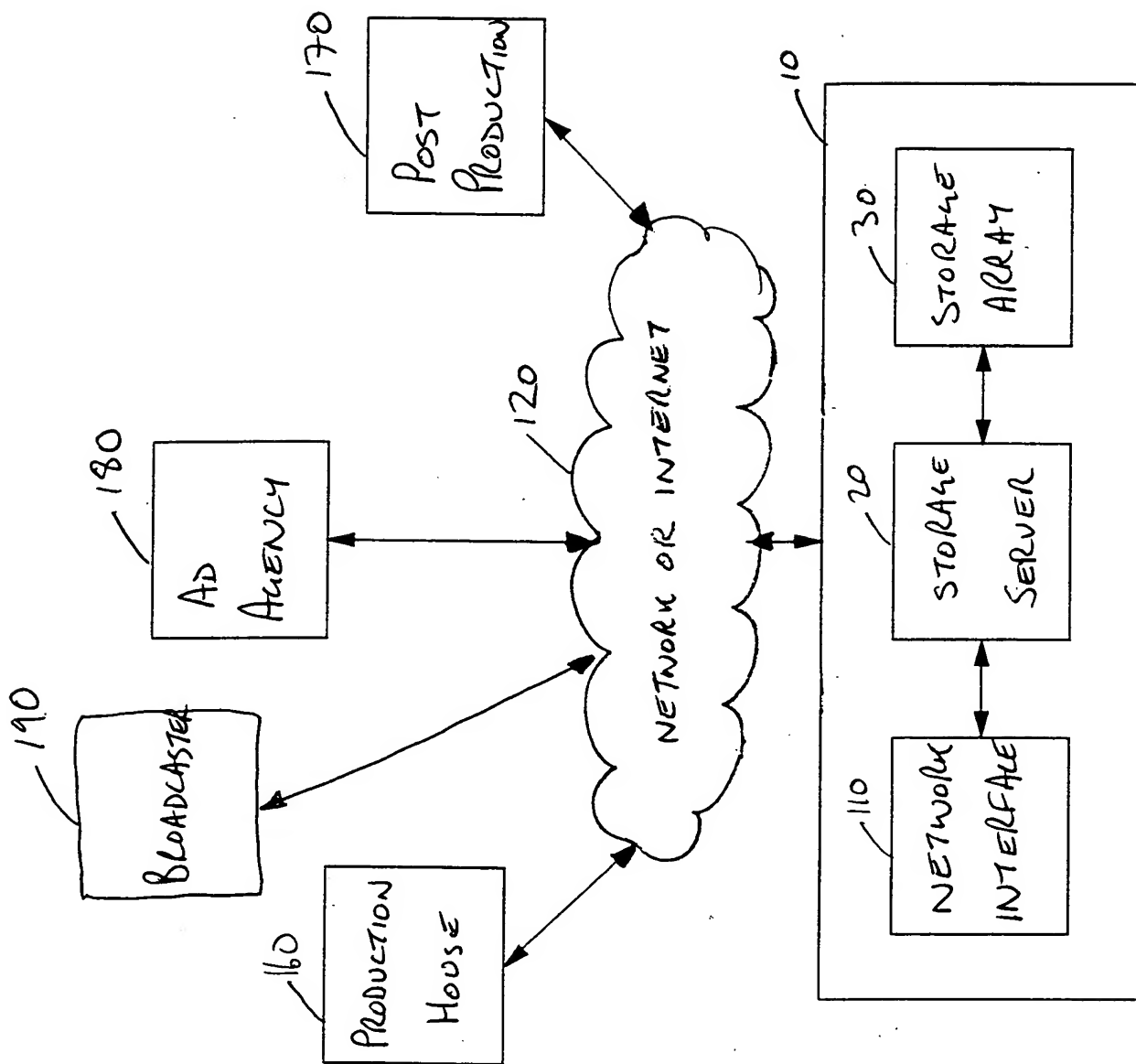


FIG. 3

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